

## MAGNETIC CIRCUIT USING PERMANENT MAGNET

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### Abstract of JP9313458

**PROBLEM TO BE SOLVED:** To easily make the fine adjustment of magnetic field in gap space and provide uniform magnetic field by fixing a magnetic plate so as to keep the lengthwise direction thereof aligned with a magnetic field direction for forming a magnetic circuit using a permanent magnet. **SOLUTION:** A magnetic shunt steel plate 6 is formed to have an annular projection 61 (first shim). Also, a circumferential step (high-order shim) is formed on the bottom 62 of the steel plate 6 when necessary. Furthermore, a gradient coil 8 and a shim plate 9 having a circumferential projection are housed in and secured to the recess of the magnetic shunt steel plate 6, and a shimming magnetic plate (shim material) 3 for magnetic field adjustment is fixed to the shim plate 9 or the surface of the bottom 62 of the plate 6. In this case, the shim material 3 is stacked, with the lengthwise direction thereof aligned with the magnetic field direction of a magnetic circuit using opposed magnets. Also, a spatial zone desired to keep the uniformity of magnetic field via shimming magnetic field adjustment has a rotation symmetry in general. Thus, shimming adjustment is made at a concentric or radial position as magnetic field adjusting positions. Also, a magnetic material may be attached to other than fixing positions for fine adjustment.

